

Amendments to the Claims:

The following listing will replace all prior listing of claims in the application.

Listing of Claims:

1. (Currently amended) A device ~~Device (100)~~ for processing a detector signal (i) derived from a particle detector ~~(1)~~, said device comprising an integrator ~~(2)~~ for measuring the total charge transported by ~~a~~ an input signal ~~(i₂)~~ feeding said integrator ~~(2)~~ for a predetermined time interval, ~~characterized in that it~~ wherein said device further comprises a unit ~~(5)~~ for reducing a fluctuating component of ~~the~~ background noise present in said detector signal ~~(i)~~ and for producing said input signal ~~(i₂)~~.

2. (Currently amended) ~~Signal processing~~ The device according to claim 1, ~~characterized in that~~ wherein said unit ~~(5)~~ comprises:

[[-]] a converter ~~(6)~~ for associating with an output voltage with an input current ~~an output voltage (e), followed by;~~

[[-]] a threshold trigger ~~(7)~~ for allowing current to pass when said output voltage ~~(e)~~ exceeds a first predetermined threshold value ~~(ε₁)~~ and for preventing current from passing when ~~the~~ said output voltage ~~(e)~~ falls below a second predetermined threshold value ~~(ε₂)~~, ~~followed by; and~~

[[-]] a converter ~~(9)~~ for associating an input voltage with an output current.

3. (Currently amended) ~~Signal processing~~ The device according to claim 2, ~~characterized in that~~ wherein said converter ~~(6)~~ comprises an amplifier A_4 in parallel with a resistor R_4 .

4. (Currently amended) ~~Signal processing~~ The device according to claim 2, ~~characterized in that~~ wherein said threshold trigger ~~(7)~~ comprises a comparator.

5. (Currently amended) ~~Signal processing~~ The device according to claim 2, ~~characterized in that~~ wherein said converter ~~(9)~~ comprises a resistor R_2 .

6. (Currently amended) A device ~~Device~~ for processing signals produced by a set of particle detectors, ~~characterized in that wherein~~ at least one of ~~these~~ said signals is processed by means of comprising a device according to ~~any one of~~ claims claim 1 to 5.

7. (Currently amended) Signal processing ~~The~~ device according to ~~any one of claims claim~~ 1 to 6, ~~characterized in that wherein~~ said particles detected by said set of particle detectors ~~are~~ comprise photons.

8. (Currently amended) A radiology ~~Radiology~~ apparatus ~~characterized in that it comprises~~ comprising a device according to ~~any one of claims claim~~ 1 to 7.

9. An imaging ~~Imaging~~ apparatus ~~characterized in that it comprises~~ comprising a device according to ~~any one of claims claim~~ 1 to 7.

10. A fluoroscopy ~~Fluorescopy~~ apparatus ~~characterized in that it comprises~~ comprising a device according to ~~any one of claims claim~~ 1 to 7.